

## CLAIMS OR CLAIMS

### WHAT IS CLAIMED IS:

- 5 1. An activity display for multiple data channels of a communication link over a period of time comprising a quasi-three-dimensional graphics display having time periods as a first axis, data channels as a second axis orthogonal to the first axis, and a shade within each rectangle defined by the time periods and data channels corresponding to a one's density for the data in the respective data channels during the respective time periods.
- 10 2. The activity display as recited in claim 1 wherein the shade is selected from a range of grey scale values.
- 15 3. The activity display as recited in claim 1 wherein the shade is selected from a plurality of color values.
- 20 4. A method of providing an activity display for multiple data channels of a communication link over a period of time comprising the steps of:
  - capturing a line of data from the communication link, the line of data having one or more frames of data corresponding to a predetermined time period, each frame of data having data for the multiple data channels;
  - processing each frame of the line of data in sequence to determine a ones density value for the data of each data channel during the predetermined time period; and

displaying the line of data as shades corresponding to the ones density values.

5        5. The method as recited in claim 4 further comprising the step of repeating  
the capturing, processing and displaying steps for a plurality of lines of data  
to produce a quasi-three-dimensional graphic display having the  
predetermined time periods as one axis, the data channels as an orthogonal  
axis, and the shades as a graphic fill for rectangles produced by the  
orthogonal axes.

10       6. The method as recited in claim 5 wherein the shades comprise a plurality  
of grey scale values corresponding to different specified patterns and  
percentages of ones density.

15       7. The method as recited in claim 5 wherein the shades comprise a plurality  
of color values corresponding to different specified patterns and percentages  
of ones density.

20       8. The method as recited in claim 4 wherein the processing step comprises  
the steps of:

for each frame in sequence of the line of data extracting data for the  
data channel of a current frame corresponding to a timeslot counter value;

matching the extracted data against known data patterns;

if no match is found recalculating the ones density based on the current frame and prior frames of the captured line of data; and

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9. The method as recited in claim 8 further comprising the step of outputting one line of display data after all the frames have been processed for the line of data, the line of display data including the pattern match indicator and the recalculated ones density value for each data channel.